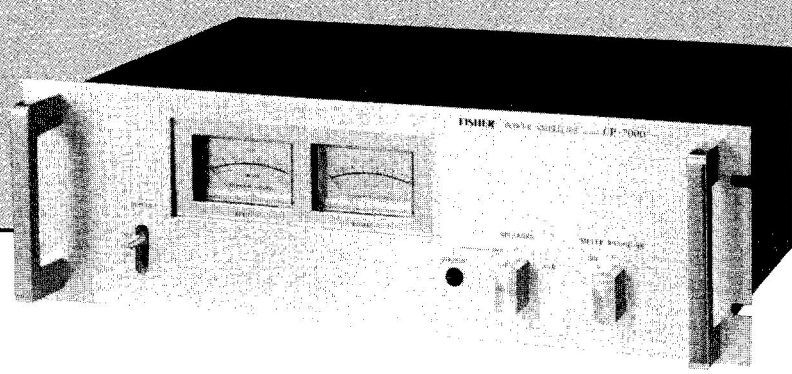
SERVICE MANUAL

FISHER

CP-7000

Power Amplifier

(EUROPE)



The first name in high fidelity

Nominal Specifications For Information Only.

POWER AMPLIFIER	CP-7000
Continuous RMS sine wave power per channel within stated band width at no more than stated distortion and with an 8 ohm loads.	55W + 55W
Harmonic Distortion	
1 kHz, at rated power output	0.2 %
1 kHz, at 10W output	0.02 %
Intermodulation Distortion	
1 kHz, at 10W output	0.05 %
Power Bandwidth	20 Hz - 30 kHz (0.2 %)
Frequency Response (20 Hz - 20 kHz)	±1 dB
Damping Factor	50
Signal to Noise Ratio	Better than 110 dB (IHF A network)
Residual Noise	Less than 0.3 mV
Input Sensitivity and Impedance	1V/50 k-ohms
GENERAL	
Power Source	AC: 110V/220V, 50 Hz
Power Consumption	200 W
Dimensions (W x H x D)	450 x 135 x 285 mm
Weight	7.8 kg (approx.)

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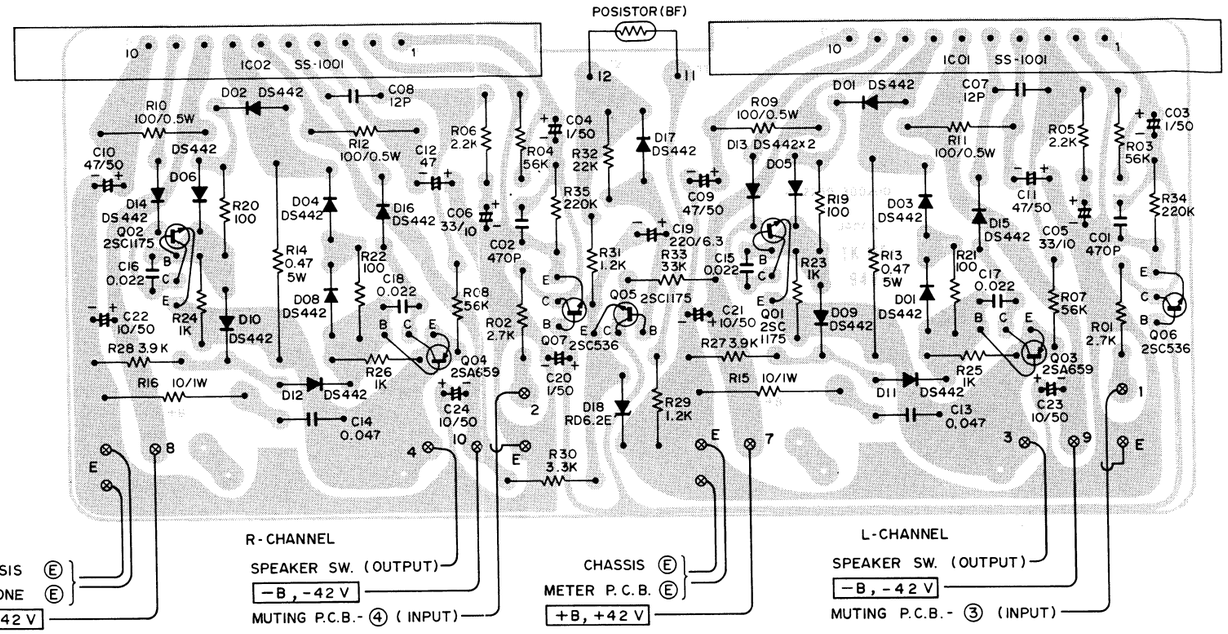
POWER AMP P.C.BOARD

(BOTTOM VIEW)



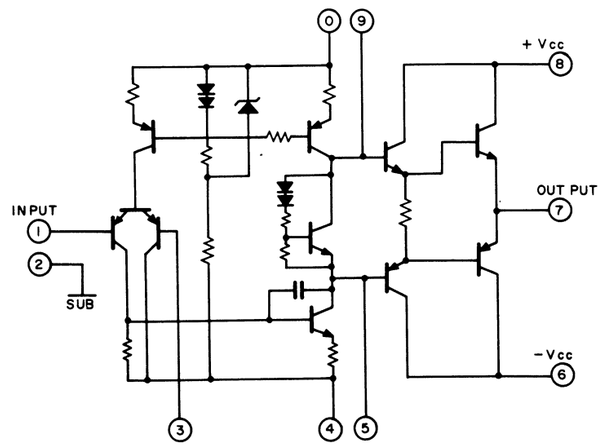
TRANSISTOR FRONT VIEW

Q01,02	2SC1175
Q03,04	2SA659
Q05	2SC1175
Q06,07	2SC536
D01 ~ 17	DS-442
D18	RD6.2E

TRANSISTOR DC VOLTAGES				
SYMBOL NO.	DEVICE	B	C	E
Q01,02	2SC1175	0V	+1V	0V
Q03,04	2SA659	0V	−1V	0V
Q05	2SC1175	−6.3V	−6.1V	−5.6V

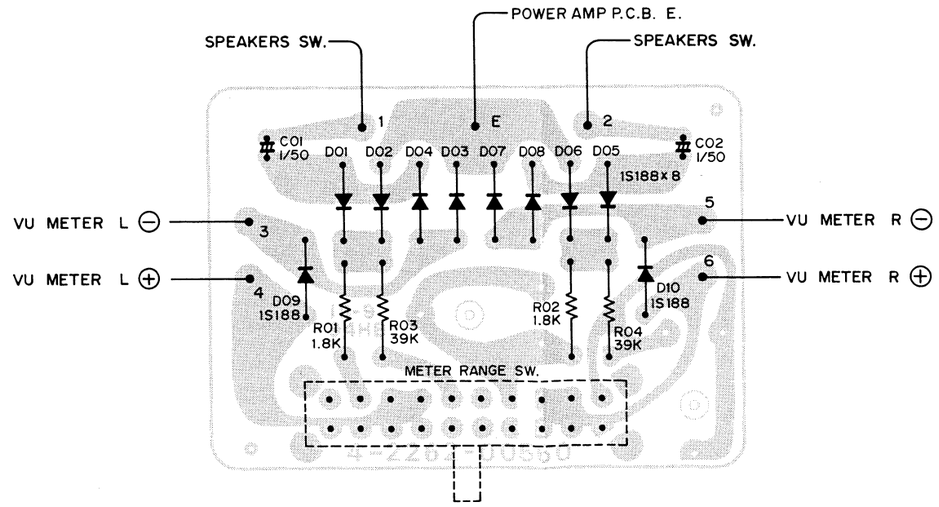
		IC PIN NUMBERS VOLTAGES									
SYMBOL NO.	DEVICE	1	2	3	4	5	6	7	8	9	10
IC01,02	SS-1001	–	–	0V	−40V	−1.3V	−42V	–	+42V	+1.2V	+40V

POWER AMP IC SS1001 EQUIVALENT CIRCUIT

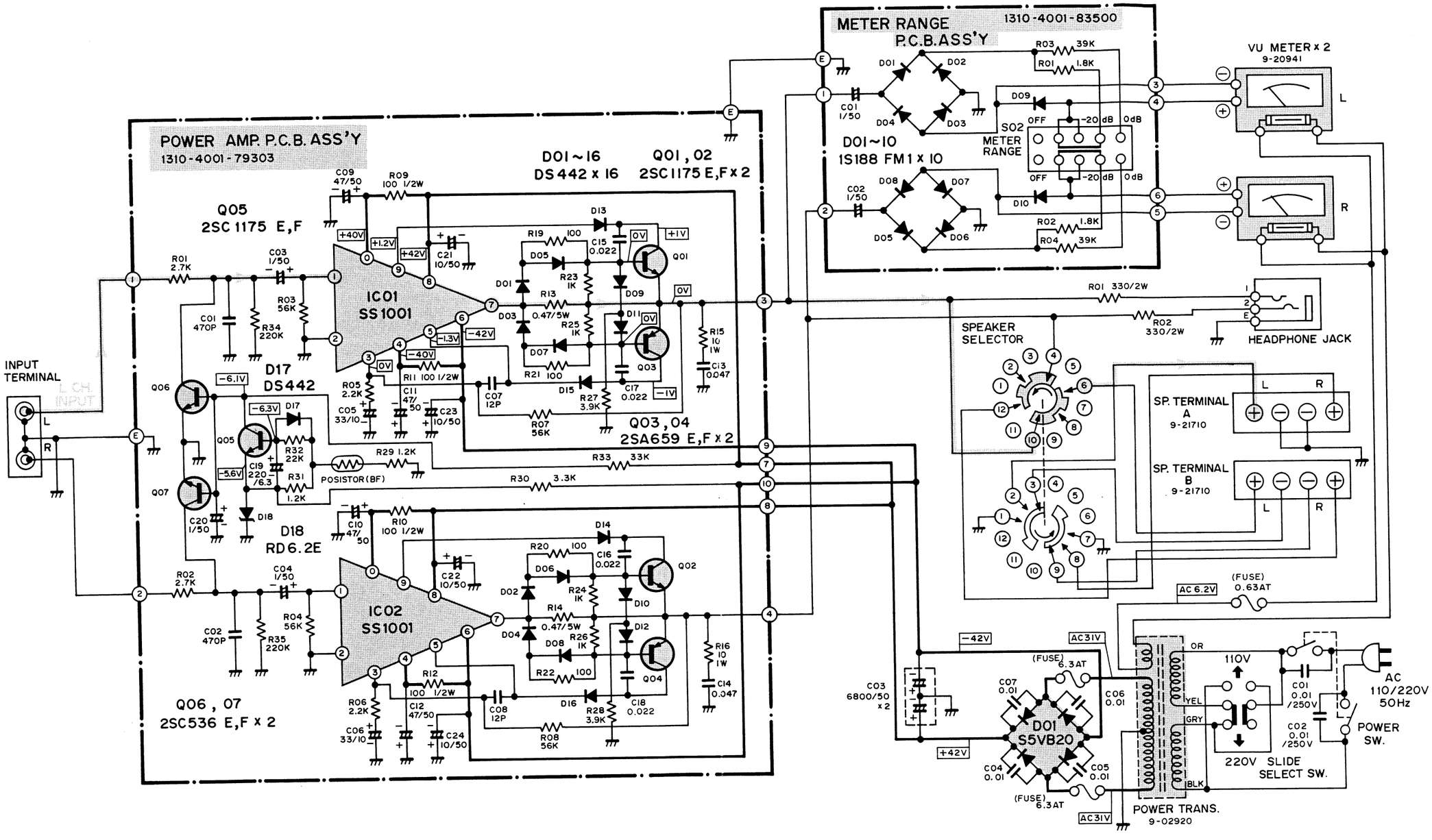


METER RANGE SW P.C.BOARD

(BOTTOM VIEW)



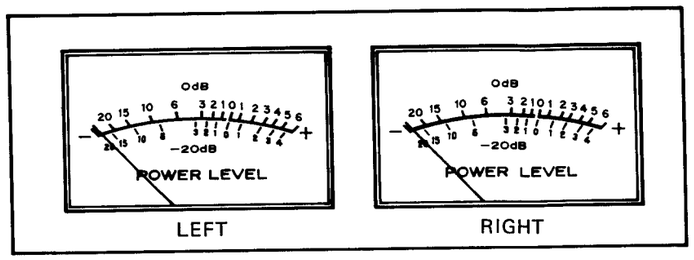
SCHEMATIC DIAGRAM

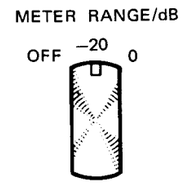


NOTES:

1. All resistors values are indicated in "ohm" (K=10^3 , M=10^6).
2. All capacitors values are indicated in "μF" (P=10^{-12}).
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10% with respect chassis ground
   c. No signals at input terminals
   d. AC input at 220 volts 50Hz
4. This is fundamental schematics diagram. Some products may be modified without notice.

POWER LEVEL METER & METER RANGE SWITCH

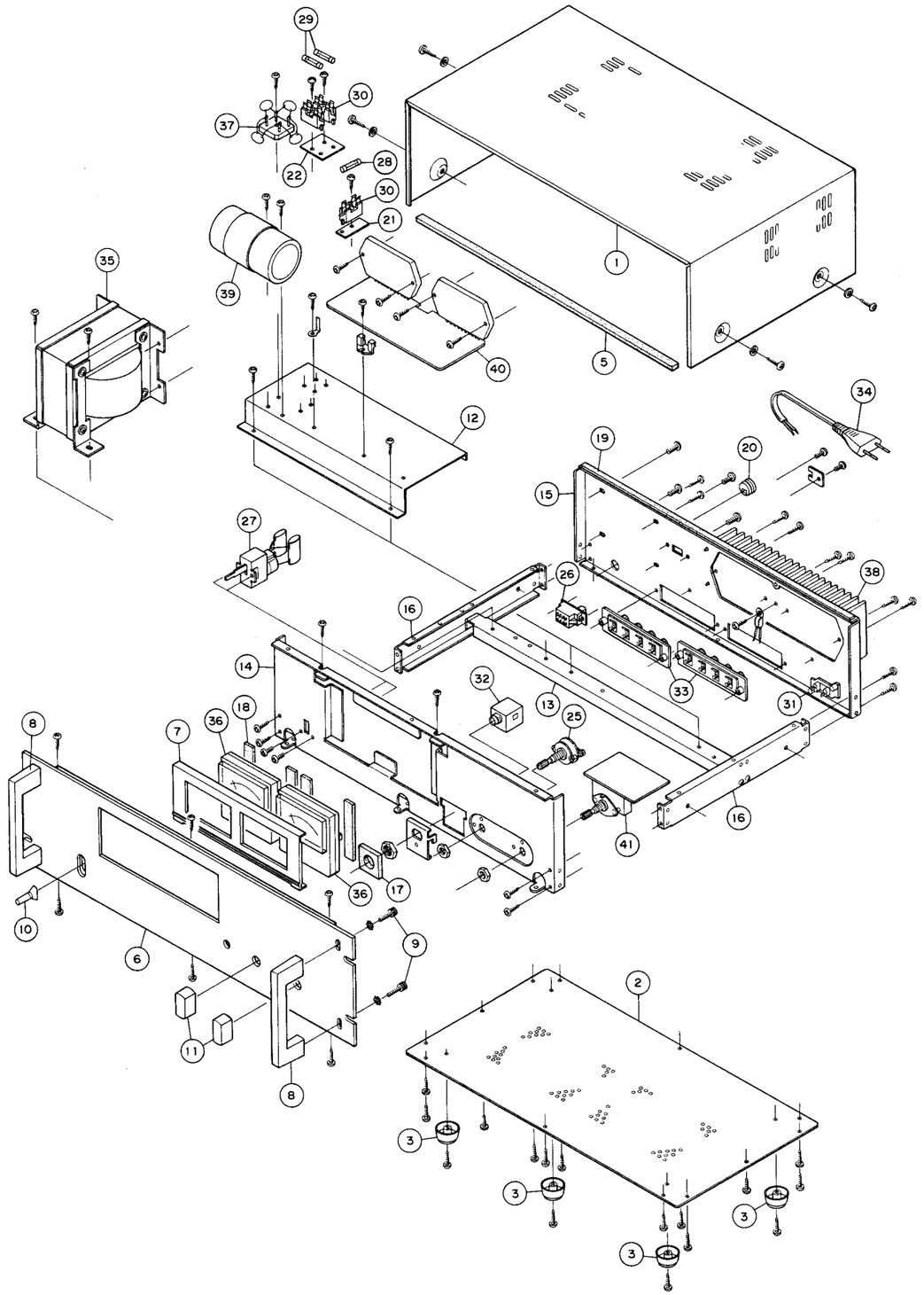




- The POWER LEVEL meters provided on this power amplifier indicate effective music power and not the peak power of music signals. Their readings, therefore, are average output values.
- The POWER LEVEL meters for the left and right channels stand at 0 dB when the sine wave output per channel is 10W at an 8-ohm load. Their needles swing over a small range when listening to an ordinary type of music.
- At the METER RANGE switch setting of –20 dB, POWER LEVEL meter sensitivity increases with their needles pointing to 0 dB at a power output of 0.1W per channel.
- The table at right shows power outputs in relation to speaker impedance values and METER RANGE switch settings.
- In actuality, signals from a program source contain many pulse waveforms which appear momentarily. Their maximum values fall within a range 5 to 10 dB higher than POWER LEVEL meter readings.
  The speaker systems should be protected carefully against excessively large inputs under any operating condition.

METER RANGE switch setting	METER reading	OUTPUT	
		8- ohm load	4-ohm load
0	Upper calibrations		
	+7 dB	50W	
	+6 dB	40W	
	+3 dB	20W	40W
	0 dB	10W	20W
	–3 dB	5W	10W
	–6 dB	2.5W	5W
	–10 dB	1W	2W
–20	Lower calibrations		
	+6 dB	0.4W	0.8W
	+3 dB	0.2W	0.4W
	0 dB	0.1W	0.2W
	–3 dB	0.05W	0.1W
	–6 dB	0.025W	0.05W

EXPLODED VIEW OF CABINET AND CHASSIS



PARTS LIST

PACKING PARTS LIST

Ref. No.		Parts Number	Description
		131 6 1139 66900	Box Corrugate-EXP
		131 6 2119 01441	Bag Polyethylene-EXP (Set)
		131 0 6001 06000	Pad Assy (Bottom, Top)
		131 6 3009 23820	Pad (Front)

ACCESSORIES PARTS LIST

Ref. No.		Parts Number	Description
		131 6 4119 68800	Explanatory Booklet (English, French, German)
		131 6 4519 14700	Guarantee Certificate
		131 0 4004 11501	Connecting Cord

CABINET PARTS LIST

Ref. No.		Parts Number	Description
1		131 2 1410 16501	Cover
2	*	131 2 1105 20401	Plate Bottom
3		131 2 1801 14100	Leg
4	*	131 2 5205 15300	Cushion

APPEARANCE PARTS LIST

Ref. No.	Parts Number	Description
6	131 0 1016 27801	Panel Decorative Assy
7	131 2 1204 00100	Panel Sub
8	131 2 1701 12200	Handle
9	131 2 4201 18600	Screw (Handle)
10	131 0 1001 37601	Knob (Power SW)
11	131 0 1001 42500	Knob (Rotary SW)

CHASSIS PARTS LIST

Ref. No.		Parts Number	Description
12	*	131 2 3101 48500	Metal Mount
13	*	131 2 3202 11900	Metal Reinf
14	*	131 2 3305 22600	Panel Front
15	*	131 2 3306 25101	Panel Rear
16	*	131 2 3308 12800	Chassis Sub
17	*	131 2 4208 20400	Spacer (Jack)
18	*	131 2 4208 26000	Spacer (Meter)
19	*	131 2 5205 15300	Cushion (Panel Rear)
20		131 2 6111 14200	Bushing (AC Cord)
21	*	131 2 7103 20916	Label (Fuse 630 mAT)
22	*	131 2 7103 25101	Label (Fuse 6.3 AT)

ELECTRICAL PARTS LIST

Ref. No.		Parts Number	Description
25		4 2312 00670	Switch Rotary, SP Selector
26		4 2319 21531	Switch Slide 6P, 110 - 220V Select
27		4 2319 24382	Switch Lever 4P, Power Switch
28		4 2349 20400	Fuse 0.63A, Pilot Lamp
29		4 2349 21570	Fuse 6.3A, Trans Secondary
30		4 2359 21021	Fuse Holder, AC Fuse
31		4 2359 23070	RCA 2P Jack, Input Jack
32		4 2359 23160	Jack Headphone
33		4 2379 21710	Terminal 4P, Speaker
34	*	4 2439 20521	Power Cord
35		4 2512 02920	Power Transformer 110V/220V
36		4 5119 20941	Meter VU, Output Level
37		DDD-S5VB20	Diode S5VB20
38	*	131 2 6201 21801	Plate Heat Sink, Power IC
C01,02		C2EHRM103A	MP Con. 0.01 μF 250V ±20%
39,C03		4 2239 20941	Electrolytic 6800 μF×2 50V
C04,05 06,07		C2HYDP103A	Ceramic 0.01 μF 500V +100,–0%
R01,02		R3DXPK331A	Oxide Metal Film 330 2W ±10%
40	*	131 0 4001 79303	POWER AMP P.C.B. Assy
41	*	131 0 4001 83500	METER RANGE P.C.B. Assy

* —Not a service part

PARTS LIST

POWER AMP P.C.B. Assy
1310 4001 79303

Ref. No.	Parts Number	Description
	HLL-PTH487A-BF	Posistor
	CAPACITORS	
C01,02	C1HCSK471SL	Ceramic 470 pF 50V ±10%
C03,04	C1HRE-105AL	Electrolytic 1 μF 50V
C05,06	C1ARB-336A	Electrolytic 33 μF 10V
C07,08	C1HCDJ120SL	Ceramic 12 pF 50V
C09,10	C1HRB-476A	Electrolytic 47 μF 50V
11,12		
C13,14	C1HYSZ473A	Ceramic 0.047 μF 50V +80,–20%
C15,16	C1HFAM223A	Mylar 0.022 μF 50V ±20%
17,18		
C19	C0JRB-227A	Electrolytic 220 μF 6.3V
C20	C1HRB-105A	Electrolytic 1 μF 50V
C21,22	C1HRB-106A	Electrolytic 10 μF 50V
23,24		
	SEMICONDUCTORS	
D01,02	205 5 9040 44210	Diode, DS-442
03,04		
05,06		
07,08		
09,10		
11,12		
13,14		
15,16		
17		
D18	DNN-RD6.2E	Diode, RD-6.2E
IC01,02	206 5 6881 00110	IC, SS1001 (Power AMP)
Q01,02	203 5 6701 17550	TR, 2SC1175 E,F
Q03,04	203 5 6800 65950	TR, 2SA659 E,F
Q05	203 5 6701 17550	TR, 2SC1175 E,F
Q06,07	203 5 5100 53650	TR, 2SC536 E,F
	RESISTORS	
R01,02	R2EDZJ272APA	Carbon 2.7k 1/4W ±5%
R03	R2EDSJ563A	Carbon 56k 1/4W ±5%
R04	R2EDZJ563APA	Carbon 56k 1/4W ±5%
R05	R2EDSJ222A	Carbon 2.2k 1/4W ±5%
R06	R2EDZJ222APA	Carbon 2.2k 1/4W ±5%
R07,08	R2EDZJ563APA	Carbon 56k 1/4W ±5%
R09,10	R2HXBJ101A	Oxide Metal Film 100 1/2W ±5%
11,12		
R13,14	R3HEPKR47A	Cement 0.47 5W ±10%
R15,16	R3AXBJ100A	Oxide Metal Film 10 1W ±5%
R19,20	R2EDZJ101APA	Carbon 100 1/4W ±5%
21,22		
R23,24	R2EDZJ102APA	Carbon 1 k 1/4W ±5%
25,26		
R27,28	R2EDZJ392APA	Carbon 3.9k 1/4W ±5%
R29	R2EDZJ122APA	Carbon 1.2k 1/4W ±5%
R30	R2EDZJ332APA	Carbon 3.3k 1/4W ±5%
R31	R2EDSJ122A	Carbon 1.2k 1/4W ±5%
R32	R2EDZJ223APA	Carbon 22k 1/4W ±5%
R33	R2EDZJ333APA	Carbon 33k 1/4W ±5%
R34,35	R2EDZJ224APA	Carbon 220k 1/4W ±5%

METER RANGE P.C.B. Assy
1310 4001 83500

Ref. No.	Parts Number	Description
SW02	4 2312 00180	Rotary (Slide)
	CAPACITORS	
C01,02	C1HAEN105A	Electrolytic 1 μF 50V ±30%
	SEMICONDUCTORS	
D01,02	202 5 9110 18820	Diode, 1S188FM1
03,04		
05,06		
07,08		
09,10		
	RESISTORS	
R01,02	R2EDSJ182A	Carbon 1.8k 1/4W ±5%
R03,04	R2EDSJ393A	Carbon 39k 1/4W ±5%

FUNCTIONAL BLOCK DIAGRAM